

REMARKS

Claims 1-14 have been canceled without prejudice or disclaimer. Claims 15-26 have been added and therefore are pending in the present application. Claims 15-26 are supported by claims 1-14. For example, new claim 18 corresponds to claim 4 and new claim 19 corresponds to claim 5. In original claim 4, a phytase was identified as consensus phytase-10-thermo[3]. This phytase is identical to the phytase of SEQ ID NO: 31, however, without the Q50T and K91A substitutions. In original claim 5, a phytase was identified as consensus phytase-1-thermo[8]. This phytase is identical to the phytase of SEQ ID NO: 29, however, without the Q50T and K91A substitutions. Applicants also note that the positions recited in the new claims refer to the positions in the mature phytase. For example, Q50T in original claim 4 is identical to Q24T in the mature phytase.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. The Objection to the Specification

The Office objected to the abstract of the disclosure because of a typographical error. The abstract has been amended to correct the typographical error. Thus, this objection has been overcome.

The Office also objected to the specification for not complying with the sequence rules. This objection is respectfully traversed. The specification was amended on July 3, 2001 to identify each sequence by a sequence identifier. Thus, this objection has been overcome.

II. The Objection to Claims 4 and 5

The Office objected to claims 4 and 5 as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. This objection is respectfully traversed.

Claims 4 and 5 do not depend from more than one claim and therefore are not multiple dependent claims. In order to advance prosecution, these claims have been cancelled without prejudice or disclaimer. Therefore, this objection is rendered moot.

III. The Rejection of Claims 1, 2, 4, 5 and 14 under 35 U.S.C. 112

Claims 1, 2, 4, 5 and 14 are rejected under 35 U.S.C. 112 as being indefinite. Claims 1-6 and 14 have been rewritten as claims 15- 26 to address this rejection. Applicants therefore submit that this rejection has been overcome.

IV. The Rejection of Claims 4 and 5 under 35 U.S.C. 112

Claims 4 and 5 are rejected under 35 U.S.C. 112 for lack of enablement. Specifically, the Office argues that the specification does not provide enablement for all the possible variants of consensus phytase-10-thermo[3] and consensus phytase-1-thermo[8]. This rejection is respectfully traversed.

The Office has misinterpreted the scope of original claims 4 and 5. Thus, these claims have been rewritten as claims 18 and 19, respectively. Applicants note that the scope of claims 18 and 19 is identical to that of claims 4 and 5, respectively.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

V. The Rejection of Claim 14 under 35 U.S.C. 112

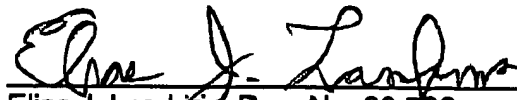
Claim 14 is rejected under 35 U.S.C. 112 because the specification does not reasonably provide enablement for pharmaceutical compositions.

Claim 14 has been rewritten as claims 21-26 to address this rejection. Thus, this rejection has been overcome.

VI. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,


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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Martin Lehmann

Confirmation No: 4209

Serial No.: 09/488,265

Group Art Unit: 1652

Filed: January 20, 2000

Examiner: D. Ramirez

For: Improved Phytases

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Sir:

Below is a marked-up version of the amendments made in the accompanying amendment.

IN THE ABSTRACT OF THE DISCLOSURE:

The abstract has been amended as follows:

This invention relates to improved phytases, preferably phytases of an increased thermostability, and a process of producing them. In particular, stabilizing amino acid mutations are introduced into a homologous protein, or the active site of a phytase is replaced in part or completely in-toto. The corresponding DNA sequences and methods of preparing them are also disclosed, as are methods of producing the improved phytases, and the use thereof. Specific variants of *Aspergillus fumigatus* phytase and of consensus phytases are disclosed.